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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,684	12/06/2005	Teiichi Inada	1204.45675X00	1866

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ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

SELLERS, ROBERT E

ART UNIT PAPER NUMBER

1712

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/559,684

Applicant(s)

INADA ET AL.

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 16-31 and 41-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-12, 16-31 and 41-43 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>December 6, 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

1. The elections of an acrylic rubber as the polymer component, an epoxy resin as the thermosetting resin and the absence of a filler in the response filed October 19, 2006 are acknowledged. However, the application has been transferred and the following restriction requirement is advanced based on a lack of unity of invention since it has been filed under 37 CFR 371.

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-7, 9-11, 16-19, 22, 23, 26-29 and 41-43, drawn to an adhesive sheet comprising a polymer component and, optionally, a filler (claim 9).

Group II, claims 8, 20, 21, 24 and 25, drawn to an adhesive sheet containing a polymer component, a thermosetting component and, optionally, a filler (claims 21 and 25).

Group III, claims 12, 30 and 31, drawn to a an adhesive sheet laminated to a dicing tape.

3. The inventions listed as Groups I to III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical feature. The special technical feature is the breaking strength, breaking elongation and the elastic moduli at 10 and 900 Hz.

Art Unit: 1712

4. Yanagiuchi et al. (Figure 1 and col. 3, lines 20-24) shows an adhesive layer having a thickness of from about 5 μm to about 100 μm (col. 3, line 66 to col. 4, line 2) prepared from the elected species of an acrylic resin (col. 3, lines 52-60 and col. 8, Example 1, lines 33-36) exhibiting a breaking strength of from about 0.196 MPa to about 4.9 MPa (col. 2, lines 43-49) and a breaking elongation of from about 10% to about 150% (col. 2, lines 50-61).
5. Araki Patent No. 6,012,818 (Figure 1 and col. 3, lines 59-61) shows a heat-sensitive adhesive layer possessing an elastic modulus of from about 1×10^6 to about $1 \times 10^8 \text{ dyn/cm}^2$ at 30°C (col. 2, lines 53-63) and a glass transition temperature of from 0° to 40°C (col. 4, lines 55-62) prepared from an acrylic polymer having a weight average molecular weight of preferably from 10,000 to 5,000,000 (col. 6, lines 1-4), a phenolic resin, a crosslinking agent such as epoxide compounds, and, optionally, inorganic particles (col. 10, line 36).
6. Based on the combined teachings of Yanagiuchi et al. and Araki, it would have been obvious to formulate an acrylic resin adhesive layer having the disclosed breaking strength, breaking elongation and elastic modulus in order to attain excellent flexibility, low temperature impact, flowability and cohesion. Accordingly, the special technical feature does not make a contribution over the prior art, thereby validating a holding of lack of unity between the inventions.

The reply to this requirement to be complete must include (i) an election of an invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions is not patentably distinct, evidence should be submitted or identified in the record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if one of the inventions is found to be unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention(s).

Upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Art Unit: 1712


7. The Information Disclosure Statement filed December 6, 2005 cites Japanese Patent No. 2-32181 disclosing an adhesive layer for bonding diced wafers (the same utility as described on page 5, the second and third paragraphs and page 23, the second full paragraph of the specification) of a (meth)acrylic ester copolymer and an epoxy resin.

Japanese Patent No. 2002-60716 reports an adhesive composed of an epoxy resin, curing agent, an epoxy group-containing acrylic copolymer having a glass transition temperature of 10°C or less (set forth in the specification on page 16, the second paragraph) and a silicone rubber filler.

Japanese Patent No. 2002-226796 espouses an adhesive sheet for sticking a wafer possessing an elastic modulus of from 0.1-10 MPa and containing a radiation-polymerizable oligomer along with a die-sticking adhesive layer with an elastic modulus of from 10-2000 MPa.

Japanese Patent No. 2002-327165 teaches the addition of a filler to prevent a decrease in adhesiveness in a thermosetting adhesive film of a thermosetting resin, a curing agent and a thermoplastic resin, wherein the filler has domain of an elastic polymer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.


Robert Sellers
Primary Examiner
Art Unit 1712

rs 11/30/2006